## **RAW SEQUENCE LISTING**

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) no errors detected.

Application Serial Number:	09/368,572.	
Source:		
Date Processed by STIC:		

## ENTERED



IFW16

RAW SEQUENCE LISTING DATE: 05/09/2005
PATENT APPLICATION: US/09/368,572 TIME: 12:50:59

Input Set : N:\Crf3\RULE60\09368572.raw.txt
Output Set: N:\CRF4\05092005\1368572.raw

## SEQUENCE LISTING

```
(1) GENERAL INFORMATION:
             (i) APPLICANT: OHBA, Toshiharu
      5
      6
                             TAKAHASHI, Shuichi
      7
                             ANMA, Yoshiko
      8
                             ASADA, Kiyozo
      9
                             KATO, Ikunoshin
            (ii) TITLE OF INVENTION: PLANT PROMOTER AND METHOD FOR GENE
     11
                                      EXPRESSION USING SAID PROMOTER
     12
           (iii) NUMBER OF SEQUENCES: 75
     14
     16
            (iv) CORRESPONDENCE ADDRESS:
                   (A) ADDRESSEE: BROWDY AND NEIMARK, P.L.L.C.
     17
                   (B) STREET: 419 7th Street N.W., Ste. 300
     18
     19
                   (C) CITY: Washington
     20
                   (D) STATE: D.C.
                  (E) COUNTRY: USA
     21
     22
                  (F) ZIP: 20004
             (v) COMPUTER READABLE FORM:
     24
     25
                   (A) MEDIUM TYPE: Floppy disk
                   (B) COMPUTER: IBM PC compatible
     26
     27
                   (C) OPERATING SYSTEM: PC-DOS/MS-DOS
     28
                   (D) SOFTWARE: PatentIn Release #1.0, Version #1.30
     30
            (vi) CURRENT APPLICATION DATA:
C--> 31
                  (A) APPLICATION NUMBER: US/09/368,572
C--> 32
                  (B) FILING DATE: 05-Aug-1999
C--> 33
                  (C) CLASSIFICATION:
     41
           (vii) PRIOR APPLICATION DATA:
W--> 36
                  (A) APPLICATION NUMBER: US/08/913,842
     37
                  (B) FILING DATE: 30-Sept-1997
W--> 38
                  (A) APPLICATION NUMBER: JP 07-073043
     39
                  (B) FILING DATE: 30-MAR-1995
W--> 42
                  (A) APPLICATION NUMBER: PCT/JP96/00777
                  (B) FILING DATE: 26-MAR-1996
     43
     45
          (viii) ATTORNEY/AGENT INFORMATION:
     46
                  (A) NAME: BROWDY, Roger L.
     47
                  (B) REGISTRATION NUMBER: 25,618
                  (C) REFERENCE/DOCKET NUMBER: OHBA=1
     48
     50
            (ix) TELECOMMUNICATION INFORMATION:
     51
                  (A) TELEPHONE: (202) 628-5197
                  (B) TELEFAX: (202) 737-3528
     52
     55 (2) INFORMATION FOR SEQ ID NO: 1:
     57
             (i) SEQUENCE CHARACTERISTICS:
     58
                  (A) LENGTH: 1875 base pairs
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RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/368,572

DATE: 05/09/2005 TIME: 12:50:59

Input Set: N:\Crf3\RULE60\09368572.raw.txt
Output Set: N:\CRF4\05092005\I368572.raw

(C) STRANDEDNESS: single	59	(B) TYPE: nucleic acid						
(i) DOPOLOGY: linear  (ii) MOLECULE TYPE: cDNA  (ii) MOLECULE TYPE: cDNA  (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 1:  (ARCTITITIG CACATATITIG CACATATITIG CACAGAGA CATAGCACT CGCTGAAAAA TATGATCTCC  (CAGAATCANA TGTTTCAATT TATACTCTAA CATATATTGA CACTATCTA AGATACACC  (I)  (I) TAGACATCAAA TGTTTCAATT TATACTCTAA CATATATTGA CACTATCTA AGATACACAC  (I)  (I) TAGACATCAAA TGTTTCAATT TATAGATCTTA TAGACAGAGA AGATGATATA TAGATATAAA  (I) CATTATCATA TATAATTAAT TAGATAGAAT TAGAATTAGA GATAAATTTA TAGATATAAA  (I) CATTATCATA ATTATAATAAT TAGAAAATA TAGAATAGAG GAAAATATA TATAATAGAA  (I) TATATTAGAAC AATTATAAAT TATAACAAAA CTATAAATTA AAAATAAGA  (I) TAAATATAAA TATAATATAAA TATACACAAA CTATAATATA TACTCAATA  (I) TAGACACAAA ATTACACAGA TACCTCGCT AAAATACAAA CTATAAATTA TACTCTAATA  (I) TAGACACAAA ATTACACTATTATATATA TAGAATAAA CTATAAATTA TACTCAATAA  (I) TAGACACAAA ATTACACTGT TAGAATAGAA AACAATAA TTTTTTTGAA  (I) GAATGAAGTG CACATAGAAT TAGAATAAA CTATAAATTAA CACAAATAA TATATATATAA  (I) GAAAATAAAT ATAATATTAT TGGATTAAATATA TAGAAAAAACA CTATAATATA TACTCCAAATAA  (I) GAAAATAACA CAATACACA ATTCCCACATTCCA CTAGAAACAGA CTACAAATAA TATTATATATAA  (I) GAAAATACA CAATACACA ATTCCCAACAC GAATAATACTA GAACACATAA TATATATATAA  (I) GAAAATACAC CAATACCA ATTCCCAACAC GAATATACTA AGACCCTTCT GCTATTCCAA  (I) GAAAATACAC CAATACCA ATTCCAAACAC GAATATACTA AGACCCTTCT GCTATTCCAA  (I) GAAAATACAC CAATACCA ATTCCAAACAC GAATATACCT GCTACATATGAA AAAAAAAAAA								
(ii) MOLECULE TYPE: CDNA  (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 1:  (68 AAGCTITTIG CACCATATTIG CAGCAGTAGA CAATGCCACT CGCTGAAAAA TATGATCTCC  (70 CAGAATTTIG GCACAAAAAA TATATCCTAA CTAATATTIG ACTCTATCTA AGATACCACC  (27 TGACACAAA TGTTCAATT TATATCCTT TAGCACGAGA AGATGTAAT TAGATATAAA  (38 CCTTATCTTA TTTAATTAAT TTAGGATT TAGACTAGAG AGATGTAATT TAGATATAAA  (39 TAATTAGACT ACTCATAAAT ATATAAATTT AAATTTAAG GTGTCAATTA TATATATAAA  (30 TAATTAGAC ACTCATAAAT ATATAAATTT AAATTTAAG TGTTCAATTA TAAAATTTA AAAATTAAAA  (30 TAAATTTTAT ATTTATAAAC AATTTTGACA TAAAATAAAA								
66 (Xi.) SEQUENCE DESCRIPTION: SEQ ID NO: 1: 68 AAGCTTITTG CACATATITG CAGCAGAGA CAATGCCACT CGCTGAAAAA TATGATCTCC 60 CAGAATTTTG CACATATTTG CAGCAGAGA CAATGCCACT CGCTGAAAAA TATGATCTCA CCAGAATTTTG CACATATTTTAATCATTAA CTAATATTTG ACTCATATCA AGATACCACC 72 TGACATCAAA TGTTTCAATT TTATGATCATA CTAATATTTG ACTCATATCA AGATACCACC 72 TGACATCAAA TGTTTCAATT TTATGATCATA TGAATTAGA CATATATTA TAGATATAAA 60 CATATATCATTA TTAATTAAT TTAGATAGAT TGAATTAGA GAAAAATTAA TAGATATAAA 76 TAATTAGACT ACTCATAAAA ATATAAAATTT AAATTTTAAG TGTTCATTCC AATATATGAA 78 ATCTATTGAA AAATTTAGACC AAATTTAGACA TAAAATAAA CTTAAAATTA AAAATTAAAA 80 TAAATTTTATAAAT AAATTTGACACA TAAAATAAA CTTAAATTAA AAAATAAGTA 81 TAATATTATA ATATAGACCAAA TACCACAATAA TATAACAAAA CTAAAATATA TATTATTATAAC 82 TAATAATATT ATAAGACCAAA TACCTCGCT AAAATACAGA AAACAATATA TTTTTTTGAA 83 CCCATCTTAA TATATATTCT TGGATGATGT TGGATCAATTA GAAAGGACAT ATTATATATAT 840 ACTTGAAAT ACTACACAT CTCACTTCACT TGGATCAATTA GAAAGGACAT ATTATATATAT 850 GCCAATAACAC CATTCCCC TGAAAATGAC TGACCAAATGA TATTATATATA 86 TGTCACGTTG AGATACCCC TGTCTCTCT TGTTGACTCT TGCTCACACACT GGTGAAATAA 87 GAAAGAACTTT CATCCAATACA ATTCCCAAACA GAAATTACCT TGGACACTT GGTAAATACACAC GGTATTCCAC 92 TCTCCACTTT CATCAATACA ATTCCCAAACA GAAATTACATT AGACCCTTCT GCTACACACT GTGAAATTAC 94 GAAAGTACCT TGCAAATTC CTTTGTTTCC GTACACACT TCAATATGAA AAAAAAAAA 86 AAACACTTT GAGAAATTA CATCAAAACA GAAATTACATA TATAATATATA 96 CAAAATACACA TGCAAATTA AATCAAAACA TATATATATATAT 97 CACACATTTAA TATAACACA ATTCCAAACA GAAATTACATA TACACACATTAA TATAAATATAT 98 CCATATTTAC TGGAAAATTA CATCAAAACA TAATTGAAAAA TACATATATAT 98 CCATATTTAC TGGAAAATTA CACCAAATTA ACTCAATATA TATAATATCCA 100 TTTTAACACAT AAAAAAATA AAATGACATA TATTTCAATT TAAAATATCCA 101 AATTTTTAACATA GAAAAAATA AAATGACATA TATTTCAATT TAAAATATATA 102 ATTCCCCCAA TACCATTAAATT TCATTTTACC ACTCCCTTTA TTTTTAAATATCAA TACATACA								
68 AGGCTTTTTC CACATATTTG CAGCAGTAGA CAATGCCACT GGCTGAAAAA TATGATCCC 70 CAGAATTTTG GCACAAAAAA TATATCCTAA CTAATATTTG ACTCTATCTA AGTACCACC 71 CAGAATTTTG GCACAAAAAA TATATCCTAA CTAATATTTG ACTCTATCTA AGTATCCACC 72 TGACATCAAA TGTTTCAATT TTAATAGTCTT TAGCACGAGA AGATGTATAT TAGATATAAA 74 CCTTATCTTA TTTAATTAAT TTAGTAAGAT TGAATTTGAG GTAAATTTTA TATATTAATA 75 CAATTAGACA ACTCATAAAA TATATAAATTT AAATTTAAA GTATCATCA AAATAACAA 76 TAATTAGACA AATATCACGT CAACTAATAA TATAACAAAA CTATAATATA AAAATAAGTA 80 TAAATTTTAT ATTTATAAAC AATTTTGACA TTAAAATTAAA CTATAAATTAA AAAATAAGTA 81 TAAATATATA TATTATAACA AATTTTGACA TAAAATACAGA AACCAATAATA TATTATATTA		, ,						
10   CAGAATTTTC GCACAAAAA TATATCCTAA CTAATATTG ACTCAATCTA ACATACCAC   120	68		60					
74 CCTTATCTTA TITAATTAT TTAGTAAGAT TGAATTAGAG GTAAATTTTA TTACTTAATA 76 TAATTAGACT ACTCATAAAT ATATAAAATT TAAAATTTTAGA GTTCATTCA ATATATGAA 78 ATCTATTGAA ATATTCACGT CAACTAATTAA ATATTAAAAA CATTATAAGA GTAAATTGA 80 TAAATTTTAT ATTTATAACA AATTTTGACA TTAAATTAAA		$\boldsymbol{\cdot}$	120					
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78	74	CCTTATCTTA TTTAATTAAT TTAGTAAGAT TGAATTAGAG GTAAATTTTA TTACTTAATA	240					
80 TAAATTTTAT         ATTATAAAC AATTTGACA TTAAATAAA CTTAAATTTA TCTCTATTAA         420           82 TAATAATAATA         ATAAGACAAA TTACTCTGCT AAAATACAGA AAACAATATA TTTTTTTGAA         480           84 ACTTTGAATA TATAATGGT TGGATGAGTAATTA GAAAGGACAAT ATTATATATA         540           86 TGTCACGTTG AGATGAGTGG CCCATTGCAC TGAAAATGAC TGACAAATGG TACTCTCAAT         600           88 CCCATCTTAT TCTCTGTTCA ATTTTTTTCA CTTGAAAACT CTTTTTCCCT ATGGAAAATA         660           90 GCAATACTCT CAATACCA CTTTCTTTTTTTTTTTTTT	76	TAATTAGACT ACTCATAAAT ATATAAATTT AAATTTTAAG TGTTCATTCC AATATATGAA	300					
82 TAATAATATT ATAAGACAAA TTACTCTGCT AAAATACAGA AAACAATATA TTTTTTTGAA         480           84 ACTTTGAAAT ATTATATTGT TGGATGATGT TGGATAATTA GAAAGACAT ATTATATATATA         540           85 TGTCACGTTG AGAGTAGTGT TGGATAATTA GAAAGACAT ATTATATATATA         540           86 CCATCCTTAT TCTCTGTTCA ATTTTTTCA CTTGAAAACT CTTTTTCCT ATGGAAAATA         660           90 GCAATAACTA CAATATCCTC GTTTCTTCTT GTTGACACACT GTGTTCACTT         720           92 TCTCCACTTT CATCAATACA ATTCCAAACA GAATATACTT AGACCCTTCT GCTATTCCAA         780           94 GAAAGTAGCT TGCAAATTG CTTTGTTTCC GACATACGAT TGAACACT TCAATATGAA AAAAAAAAAA	78	ATCTATTGAA AATATCACGT CAACTAATAA TATAACAAAA CTATAATATA AAAATAAGTA	360					
84         ACTTTGAAAT ATTATATGT TGGATGATGT TGGATAATTA GAAAGGACAT ATTATATATA         540           86         TOTCACGTTG AGATGAGTGG CCCATTGCAC TGAAAATGAC TGACAAATGG TACTCTCAAT         600           88         CCCATCTTCATCTCTCTA ATTTTTTCA CTTGAAAACT GACACAACT GTGTCAATT         720           90         GCAATAACTA CAATATCCT GTTTCTTCTT GTTAGCTCTT GGCTACACT GTGTTCATCT         720           91         GCAAGAGTACTA CAATATCCA ATTCCAAACA GAATATACTT AGACCCTTCT GCTATTTCAAA         780           94         GAAAGTGCT TGCAAATTG CTTGTTTCC GACATACACT TCAATATGAA AAAAAAAAAA	80	TAAATTTTAT ATTTATAAAC AATTTTGACA TTAAATTAAA	420					
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88 CCCATCTTAT TCTCTGTTCA ATTTTTTCA CTTGAAAACT CTTTTTCCCT ATGGAAATA 660 90 GCAATAACTA CAATATCCTC GTTTCTTCTT GTTAGCTCTT GGCTACACACT GTGTTCATCT 720 92 TCTCCACTTT CATCAATACA ATTCCAAACA GAATATACTT AGACCCTTCT GCTATTTCAA 780 94 GAAAGTAGCT TCCAAATTG CTTTGTTTCC GACATCACCT TCAATATGAA AAAAAAAAA 840 96 AAAACACTTT GAGAACTTT TAAAAAGTAT TAAGTAGGAT TTGACGGCAG AATTTTGTTT 900 98 CCATATTTAG TTGAAAATAC ATACAAAACG TATTTGAGAT TTGACGGCAG AATTTTGTTT 900 100 TTTTAACATA GAAAAAATTC AACCAAATTA AGTCCATACT TAAGCATTAA TATAAATATT 1020 102 TCAGTTATTC GACTCCGGTT TCACGTCTTG CCATTGTTTT ACATGTGTAA TATAAATACTT 1080 104 AATTTTTTAT GTTTTCATGT CTCTTTTATCC ACTCCCTTTA TTTTACATT ATAATACCAC 1140 106 ATTCCTCCAA TACTATAATT CTTAAGAATAT AAATGCACT TAATATCTAA TAATAACACA 1200 108 GGTAAGTTGT AAATATTCAT AGAAAAAATA AAATGACATT TCAAGAAAAC CAACAACTAA 1260 110 ATATAAAATA TAGAAAAGTT AATTTACAATT TTGTCCGTTA ACATGTCCAG ATATTACACT 1320 112 CTCAAAAGAA AAAGTGTTAG AAAAAACAAT TAAAATATCAG TTCAAAATACT TTGTTAGAATT 1440 116 TTAAAAATA CATCAATAT ATATATTTA ATATTGATTA TTCAATTTAAA TAAAATATTT 1440 116 TTAAAAATA CATCAATAT ATATATTTA ATATTGATTA TTCAATTTAAA TATATTATTA 1440 116 TTAAAAATA CATCAATAT ATATATTTA AAATTAACAT TCAATTATAT TAAAATATAT 1440 116 TTAAAAATA CATCAATAT ATATATTTA AAATTAACAT TCAATTATAT TAAAATATAT 1440 116 TTAAAAATAA CATCAATAT ATATATTTA AAATTAACAT TCAATTATAT TAATATTATT 1440 116 TTAAAAATAA CATCAATAA ATATATTTTA AAATTAACAT TCAATTATAT TAATCATTTT 1560 120 ATGAACTGAG AGATTTTACA TTTATGAGAA ATTCTGATAT TCATTTTAACC TAACATTATA TACCATTACA 1620 121 ATGAACTGAG AGATTTTACA TTTATGAGAA ATTCTTCTTGAT TCTATTAAACA TGAACATTAT 1740 122 ATGAACTGAG AGATTTTACA TTTATGAGAA ATTCTCTTGAT TCTATTAAACA TGAACATAA 1740 123 CCAAAAAGAA AAATG 124 (i) SEQUENCE CHARACTERISTICS: 134 (i) SEQUENCE CHARACTERISTICS: 135 (A) LENGTH: 1965 base pairs 136 (B) TYPE: nucleic acid 137 (C) STRANDEDNESS: single 138 (D) TOPOLOGY: linear 140 (ii) MOLECULE TYPE: cDNA 141 (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 2: 147 AAGCTTCAAG TAAGTCCTG TAATATGAAG GAAAAGGGAA GAAAGCCGA TTTTGAGAGA 148 (AAATTCTAG GTGTACTGGA ATCTAGGAAG GATGAATTAG GAAAAGCTAA T	84	ACTTTGAAAT ATTATATTGT TGGATGATGT TGGATAATTA GAAAGGACAT ATTATATATA	540					
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94 GAAAGTAGCT TGCAAATTTG CTTTGTTTCC GACATACACT TCAATATGAA AAAAAAAAA 96 AAAACACTTT GAGAACTTT TAAAAAGTAT TAAGTAGGAT TTGACGGCAG AATTTTGTTT 90 098 CCATATTTAG TTGAAAATAC ATACAAAACG TATTTGAAG TTATATTCGA TTGAATTTGG 766 100 TTTTAACATA GAAAAAATTC AACCAAATTA AGTCCATACT TAAGCATTAA TATAAATATT 1020 102 TCAGTTATTC GACTTCGGTT TCACGTCTTG CCATTGTTTT ACATGTGTAA TACTCAATT 1080 104 AATTTTTAT GTTTTCATGT CTCTTTATCC ACTCCCTTA TATATATCCAA TAATAACACAC 1140 106 ATTCCTCCAA TACTATAATT CTTAAGATAT ATGTGAACAT TAATAACTCAA TGATACATAA 1200 108 GGTAAGTTGT AAATATCAAT AGAAAAAATA AAATGACATT TCAAGAAAAC CAACCACACAA 1200 110 ATATAAAAATA TAGAAAAGTT ATTTACAATT TTGTCCGTTA ACATGTCCAG ATATTACACT 1320 112 CTCAAAAGAA AAAGTGTTAG AAAAATCATA TATATATTAT TAAAATTACT TTGTTAGATT 1380 114 TTTTTTACTG AACATTTAAA ATATATATTT AAAATTAAA TATATATTAT AAAATTAAAAAA			720					
96 AAAACACTTT GAGAACTTT TAAAAAGTAT TAAGTAGGAT TTGACGGCAG AATTTGTTT 98 CCATATTTAG TTGAAAAAACA CATACAAAACG TATTTGAAAG TTATATTCGA TTGAATTTGG 960 100 TTTTAACATA GAAAAAAATC AACCAAATTA AGTCCATACT TAAGCATTAA TATAAATATT 1020 102 TCAGTTATTC GACTTCGGTT TCACGTCTTG CCATTGTTT ACACTGGTAA TACTACAATT 1080 104 AATTTTTAT GTTTTCATGT CTCTTTATCC ACTCCCTTTA TTTTTACATT ATAATACCAC 1140 106 ATTCCTCCAA TACTATAATT CTTAAGATATA AGAGACAT TAATATCTAA TGATACATAA 1200 108 GGTAAGTTGT AAATATTCAT AGAAAAATA AAATGACTT TCAAGAAAAC CAACAACTAA 1201 100 ATATAAAAATA TAGAAAAAGTT ATTTACAATT TTGTCCGTTA ACATGTCAG ATATTACACT 1320 112 CTCAAAAGAA AAAGTGTTAG AAAAATCATA TAAAATAGAG TTCAAATTCT TTGTTAGATT 1380 114 TTTTTTACTG AACATTTAAA ATATATTTTA ATAATTGATA TTCAATTTTA TAAATATATT 1440 116 TTAAAATTAA CATTCAATAT ATATATTTTA AAATTAACAT TCAATATATA TATATTAAAAG 118 ACACAGAAGA AACAACAAAT TCCATAAAAT TGTGAGATAA TATTTTAACCT TAACTTTCTT 1560 120 ATGAACTGAG AGATTTACA TTTATGAGAA ATGATTGTCC TGTGTTAATT ATACTTTAAAAC 1680 124 CTTTTAGGCC AAAGAAAATT GAAACACAAA ATACCAGTTC TCAAAATATA TACCATTCTA 1680 124 CTTTTAGGCC AAAGAAAATT GAAACACAAA ATACCAGTTC TCAAAATACAA TGAACATTAT 1740 126 TAATTATAAT TCAGTTAAAA GCTCATTGATC AGAACACCAG TGAAGGGTTAG CTATACAGCG 1800 128 GTTATAGGTG CAGGCAGAGT GCGTGCCTA TATATACCCT TCAAATACAA TAAAATACAA 1875 132 (2) INFORMATION FOR SEQ ID NO: 2: 134 (i) SEQUENCE CHARACTERISTICS: 135 (A) LENGTH: 1965 base pairs 136 (B) TYPE: nucleic acid 137 (C) STRANDEDNESS: single 138 (D) TOPOLOGY: linear 140 (ii) MOLECULE TYPE: cDNA 145 (Xi) SEQUENCE DESCRIPTION: SEQ ID NO: 2: 147 AAGCTTCAAG TAAGGTCCTG ATCTAGGAGA GAAGACCCTT 149 CAAATTCTAG GGTGTACTGGA ATCTAGGAGATG CAAAGAGAGA GAAGGCCCTT 149 CAAATTCTAG GGTGTACTGGA ATCTAGGAGTT CGAAAGAGAGA GAAAGGCCCTT 140 CAAAATCCAAG TAAGACTATGATC GAAAGAGTG GTTTTGAGAGA 120 121 ATTATAAGTG GCCTTATTGA TGGTGGGTTT CGACAGAGTG CCCAACGAAT ATGTGGGATC 149 CAAATTCTAG GTGTACTGGA ATCTAGGGAGT CGAAGGATG CCCAACGAAT ATGTGGGATC 150 151 ATTATAAGTG GCCTTATTGA TGGTGGGTTT CGACAGAGTG CCCAACGAAT ATGTGGGATC 150			780					
98 CCATATTTAG TIGAAAATAC ATACAAAACG TATTTGAAAG TTATATTCGA TIGAATTTGG 100 TITTAACATA GAAAAAATC AACCAAAATA AGTCCATACT TAAGCATTAA TATAAATATT 1020 102 TCAGTTATTC GACTTCGGTT TCACGTCTTG CCATTGTTT ACATGTGTAA TATAAATATT 1080 104 AATTTTTAT GTTTTCATGT CTCTTTATCC ACTCCCTTTA TTTTTACATT ATATACCAC 1140 106 ATTCCTCCAA TACTATAATT CTCTAAGATAT ATGTGAACAT TAATATCTAA TGATACCAC 110 ATATAAAATA TAGAAAAGTT ATTACAATT TTGTCCGTTA ACATGTCTAA TGATACATAA 1200 108 GGTAAGTTGT AAATATTCAT AGAAAAATA AAATGACTT TCAAGAAAAC CAACAACTAA 1260 110 ATATAAAAATA TAGAAAAGTT ATTTACAATT TTGTCCGTTA ACATGTCCAG ATATTACACT 112 CTCAAAAGAA AAAGTGTTAG AAAAATCAA TAAAATAGAG TTCAAATTCT TTGTTAGATT 1380 114 TTTTTACTG AACATTTAAA ATATATATTTA AAATTAATAT TACATTTTATA TAAAATATATT 1440 116 TTAAAATTAA CATTCAATAT ATATATTTTA AAATTAACAT TCAATATATA TAATATATTT 1440 117 ACACAGAAGA AACAACAAAT TCCATAAAAT TGTGAGATAA TATTTAACCC TAACTTTCTT 1560 120 ATGAACTGAG AGATTTTACA TTTATGAGAA ATGATTGTC TGTGTTAATT ATCCATTTCT 1620 ATGAACTGAG AGATTTACA TTTATGAGAA ATGATTGTC TGTGTATAATT ATCCATTCAA 1620 ATGAACTGAG AGATTTACA TTTATGAGAA ATGATTGTC TGTGTCATAT ATCCATGTCA 1620 CGTACCTAAT CACTAGAAAA GCTAATCAGA ATCCATGTC TCAAATACAA TGAACCATAT 1740 126 TAATTATAAT TCAGTAAAA GCTAATCAGA ATCCAGTTC TCAAATACAA TGAACATTAT 1740 126 TAATTATAAT TCAGTAAAA GTCATTGATC AGAACAGCAG TGAAGGTTAG CTATAAGCGC 1800 128 GTTATAGGTG CAGGCAGAGT GTCGTGCCTA TATATACCCT TTGGAATGCA CAAGTTGAAA 1860 129 CACAAAAGAA AAATG 1875 136 (B) TYPE: nucleic acid 137 (C) STRANDEDNESS: single 138 (D) TOPOLOGY: linear 140 (ii) MOLECULE TYPE: cDNA 145 (Xi) SEQUENCE DESCRIPTION: SEQ ID NO: 2: 147 AAGCTTCAAG TAAGTCTCG AAATTATG GCAAAGGGTTC GAAATGAGA GAAGGCCCTT 147 AAGCTTCAAG TAAGTCTCG AACTTATGGAAG GAAGGGTTC GAAATGAGA GAAGGCCCTT 149 CAAAATTCTAG GTGTACTGGA ATCTAGGAAG GAAGGGTTC GAAATGAGAA GAAGGCCCTT 147 AAGCTTCAAG TAAGTCTGG AACTTATGGAAG GAAGAGTTA ATTTTGAGAGA 150 141 ATTATAAGTG GCCTTATTGA TGGTAGGATT CCGCCAAGAAT ATGTGGGATC 151 ATTATAAGTG GCCTTATTGA TGGTAGGTTT CCGCCAAGAAT ATGTGGGATC 151 ATTATAAGTG GCCTTATTGA TGGTAGGTTT CCGCCAAGAAT ATGTGGGATC 151 ATTATAAGTG GCCTTATTGA TGGTA		•	840					
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102 TCAGTTATTC GACTTCGGTT TCACGTCTTG CCATTGTTTT ACATGTGTAA TACTTCAATT 104 AATTTTTAT GTTTTCATGT CTCTTTATCC ACTCCCTTTA TTTTTACATT ATAATACCAC 1140 106 ATTCCTCCAA TACTATAATT CTTAAGATAT ATGTGAACAT TAATATCTAA TGATACATAA 1200 108 GGTAAGTTGT AAATATTCAT AGAAAAATA AAATGACTTT TCAAGAAAC CAACACTAA 1260 110 ATATAAAATA TAGAAAAGTT ATTTACAATT TTGTCCGTTA ACATGTCCAG ATATTACACT 112 CTCAAAAGAA AAAGTGTTAG AAAAATCATA TAAAATAGAG TCAAATTCT TTGTTAGATT 1320 114 TTTTTACTG AACATTTAAA ATATATATTG ATATTGATTA TTCAATTTTA TAAATATATT 1440 116 TTAAAAATTAA CATTCAATAT ATATATTTTA AAATTAACAT TCAATATATA TATTTTAAAG 118 ACACAGAAGA AACACAAAT TCCATAAAAT TGTGAGATAA TATTTAACCC TAACTTTCTT 150 120 ATGAACTGAG AGATTTTACA TTTATGAGAA ATCATGTCC TGTGTTAATT ATCCATGTCA 122 GCTACCTAAT CACTAGAAAA GCTAATCAGA ATTCTGTGAT CTGTGTTAATT ATCCATGTCA 124 CTTTTAGGCC AAAGAAAATT GAAACACAAA ATCCAGTTC TCAAATACAA TGAACATTAT 1740 126 TAATTATAAT TCAGTTAAAA GTCATTGATC AGAACAGCAG TGAAGGTTAG CTATAAGCGC 128 GTTATAGGGC CAAGAAAATT GAACACCAAA ATACCAGTTC TCAAATACAA TGAACATTAT 1740 126 TAATTATAAAT TCAGTTAAAAA GTCATTGATC AGAACAGCAG TGAAGGTTAG CTATAAGCGC 128 GTTATAGGGC CAAGGAGT GTCGTGCCTA TATATACCCT TTGGAATGCA CAAGTTGAAA 1860 128 GTTATAGGGT CAGGCAGAGT GTCGTGCCTA TATATACCCT TTGGAATGCA CAAGTTGAAA 1860 129 CACAAAAGAA AAATG 130 CACAAAAGAA AAATG 131 (i) SEQUENCE CHARACTERISTICS: 132 (2) INFORMATION FOR SEQ ID NO: 2: 134 (i) SEQUENCE CHARACTERISTICS: 135 (A) LENGTH: 1965 base pairs 136 (B) TYPE: nucleic acid 137 (C) STRANDEDNESS: single 138 (D) TOPOLOGY: linear 140 (ii) MOLECULE TYPE: cDNA 141 (Xi) SEQUENCE DESCRIPTION: SEQ ID NO: 2: 142 AAGCTTCAAG TAAGGCCCTT 143 AAGCTTCAAG TAAGTCTCTG TGATATGTAT GCAAGGGTTC GAAATGAGAA GAAGGCCCTT 144 CAAATTCTAG GGTGTACTGGA ATCTAGGAAG GATGAATTAG GAAAAGCTGA TTTTGAGAGA 150 145 AAGCTTCAAG TAAGTCTCTG TGATATGTAT GCAAGGGTTC GAAATGAGAA GAAGGCCCTT 146 CAAAATTCTAG GGTGTACTGGA ATCTAGGAAG GATGAATTAG GAAAAGCTGA TTTTGAGAGA 150 151 ATTATAAGTG GCCTTATTGA TGGTGGGTTT CGGCAAGATTAG GAAAAGCTAA TTTTGAGAGA 150								
104 AATTTTTAT GTTTTCATGT CTCTTTATCC ACTCCCTTA TTTTTACATT ATAATACCAC 1140 106 ATTCCTCCAA TACTATAATT CTTAAGATAT ATGTGAACAT TAATATCTAA TGATACATAA 1200 108 GGTAAGTTGT AAATATTCAT AGAAAAAATA AAATGACTTT TCAAGAAAAC CAACAACTAA 1260 110 ATATAAAATA TAGAAAAGTT ATTTACAATT TTGTCGTTA ACATGTCCAG ATATTACACT 1320 1112 CTCAAAAGAA AAAGTGTTAG AAAAATCATA TAAAATAGAG TTCAAAATCT TTGTTAGATT 1380 114 TTTTTTACTG AACATTTAAA ATATATATTG ATATTGATTA TCAATTTAT ATAATATAT 1440 116 TTAAAATTAA CATTCAATAT ATATATTTA AAATTAACAT TCAATATATA TATTTTAAAG 1500 118 ACACAGAAGA AACAACAAAT TCCATAAAAT TGTGAGATA TATTTAACC TAACTTCTT 1560 120 ATGAACTGAG AGATTTACA TTTATGAGAA ATGATGTCC TGTGTTAATT ATCCATGTCCA 1620 121 GCTACCTAAT CACTAGAAAA GCTAATCAGA ATCCTGTGAT CTAGTCCTAC TATTCAAACA 1640 122 GCTACCTAAT TCAATAAAAAT GAAACACAAA ATACCAGTTC TCAAATACAA TGAACATTAT 1740 124 CTTTTTAGGCC AAAGAAAATT GAAACACAAA ATACCAGTTC TCAAATACAA TGAACATTAT 1740 125 TAATTATAAT TCAGTTAAAAA GTCATTGATC AGAACAGCAG TGAAGGTTAG CTATAAGCGC 1800 128 GTTATAGGTG CAGGCAGAGT GTCGTGCCTA TATATACCCT TTGGAATGCA CAAGTTGAAA 1860 130 CACAAAAGAA AAATG 1870 121 (1) SEQUENCE CHARACTERISTICS: 134 (1) SEQUENCE CHARACTERISTICS: 135 (A) LENGTH: 1965 base pairs 136 (B) TYPE: nucleic acid 137 (C) STRANDEDNESS: single 138 (D) TOPOLOGY: linear 140 (ii) MOLECULE TYPE: CDNA 145 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 2: 147 AAGCTTCAAG TAAGTCTGG AGATATGGAA GAAGGGTTC GAAATGAGAA GAAGGCCCTT 60 149 CAAATTCTAG GTGTACTGGA ATCTAGGAAG GATGAATTAG GAAAAGCTGA TTTTGAGAGA 120 151 ATTATAAGTG GCCTTATTGA TGGTGGGTTT CGGCAAGATG CCCAACGAAT ATGTGGGATC 180								
106 ATTCCTCCAA TACTATAATT CTTAAGATAT ATGTGAACAT TAATATCTAA TGATACATAA 108 GGTAAGTTGT AAATATCAT AGAAAAATA AAATGACTTT TCAAGAAAAC CAACAACTAA 110 ATATAAAATA TAGAAAAGTT ATTTACAATT TTGTCCGTTA ACATGTCCAG ATATTACACT 112 CTCAAAAGAA AAAGTGTTAG AAAAATCATA TAAAATAGAG TTCAAAATTCT TTGTTAGATT 114 TTTTTACTG AACATTTAAA ATATATATG ATATTGAGAT TCAATATATA TATATATAT 116 TTAAAATTAA CATTCAATAT ATATATTTA AAATTAACAT TCAATATATA TATTTTAAAG 118 ACACAGAAGA AACAACAAAT TCCATAAAAT TGTGAGATAA TATTTAACCC TAACTTCTT 120 ATGAACTGAG AGATTTACA TTTATGAGAA ATGATGTCC TGTGTTAATT ATCCATGTCA 1620 121 GCTACCTAAT CACTAGAAAA GCTAATCAGA ATGATGTCC TGTGTTAATT ATCCATGTCA 1680 122 GCTACCTAAT CACTAGAAAA GCTAATCAGA ATACCAGTTC TCAAATACAA TGAACATTAT 1740 123 GTTATAGGCC AAAGAAAATT GAAACACAAA ATACCAGTTC TCAAATACAA TGAACATTAT 1740 124 CTTTTAGGCC AAAGAAAATG GTCATTGATC AGAACAGCAG TGAAGGTTAG CTATAAGCGC 1800 128 GTTATAGGTG CAGGCAGAGT GTCGTGCCTA TATATACCCT TTGGAATGCA CAAGTTGAAA 1860 130 CACAAAAGAA AAATG 121 (i) SEQUENCE CHARACTERISTICS: 134 (i) SEQUENCE CHARACTERISTICS: 135 (A) LENGTH: 1965 base pairs 136 (B) TYPE: nucleic acid 137 (C) STRANDEDNESS: single 138 (D) TOPOLOGY: linear 140 (ii) MOLECULE TYPE: CDNA 145 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 2: 147 AAGCTTCAAG TAAGTCTCTG TGATATGTGT GAAAGGTTC GAAATGAGAA GAAGGCCCTT 149 CAAATTCAAG TAAGTCTCTG TGATATGTAT GCAAGGGTTC GAAATGAGAA GAAGGCCCTT 149 CAAATTCAAG TAAGTCTCTG TGATATGTAT GCAAGGGTTC GAAATGAGAA GAAGGCCCTT 149 CAAATTCAAG GTGTACTGGA ATCTAGGAAG GATGAATTAG GAAAAGCTGA TTTTGAGAGA 150 CACAAAGGA TAAGTCTCTG TGATATGTAT GCAAGGGTTC GAAATGAGAA TTTTGAGAGA 150 CACAAATTCAAG TAAGTCTCTG TGATATGTAT GCAAGGGTTC GAAATGAGAA GAAGGCCCTT 149 CAAATTCAAG GTGTACTCGA ATCTAGGAAG GATGAATTAG GAAAAGCTGA TTTTGAGAGA 150 CACAAATTCAAG GTGTACTCGA ATCTAGGAAG GATGAATTAG GAAAAGCTGA TTTTGAGAGA 151 ATTATAAGTG GCCTTATTGA TGGTGGGTTT CGGCAAGATT ATGTGGGATC 180								
108 GGTAAGTTGT AAATATTCAT AGAAAAAATA AAATGACTTT TCAAGAAAAC CAACAACTAA 1260 110 ATATAAAATA TAGAAAAGGT ATTTACAATT TTGTCCGTTA ACATGTCCAG ATATTACACT 1320 112 CTCAAAAGAA AAAGTGTTAG AAAAATCATA TAAAATAGAG TTCAAATTCT TTGTTAGATT 1380 114 TTTTTACTG AACATTTAAA ATATATATTG ATATTGATTA TTCAATTTTA TAAAATATAT 1440 116 TTAAAATTAA CATTCAATAT ATATATTTA AAATTAACAT TCAATATATA TATTTTAAAG 1500 118 ACACAGAAGA AACAACAAAT TCCATAAAAT TGTGAGATAA TAATTTAACCC TAACTTCTT 1500 120 ATGAACTCAG AGATTTTACA TTTATGAGAA ATCATTGTCC TGTGTTAATT ATCCATGTCA 1620 121 GCTACCTAAT CACTAGAAAA GCTAATCAGA ATTCTGTGAT CTAGTCCTAC TATTCAAACA 1680 122 GCTACCTAAT CACTAGAAAA GCTAATCAGA ATTCTGTGAT CTAGTCCTAC TATTCAAACA 1680 124 CTTTTAGGCC AAAGAAAATT GAAACACAAA ATACCAGTTC TCAAATACAA TGAACATTAT 1740 126 TAATTATAAT TCAGTTAAAA GTCATTGATC AGAACAGCAG TGAAGGTTAG CTATAAGCGC 1800 128 GTTATAGGTG CAGGCAGAGT GTCGTGCCTA TATATACCCT TTGGAATGCA CAAGTTGAAA 1860 130 CACAAAAGAA AAATG 1875 131 (1) SEQUENCE CHARACTERISTICS: 132 (2) INFORMATION FOR SEQ ID NO: 2: 133 (3) LENGTH: 1965 base pairs 134 (1) SEQUENCE CHARACTERISTICS: 135 (A) LENGTH: 1965 base pairs 136 (B) TYPE: nucleic acid 137 (C) STRANDEDNESS: single 138 (D) TOPOLOGY: linear 140 (ii) MOLECULE TYPE: cDNA 141 (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 2: 142 AAGCTTCAAG TAAGTCTCTG TGATATGTAT GCAAGGGTTC GAAATGAGAA GAAGGCCCTT 60 143 CAAATTCTAG GTGTACTGGA ATCTAGGAAG GATGAATTAG GAAAAGCTGA TTTTGAGAGA 120 144 CAAATTCTAG GTGTACTGGA ATCTAGGAAG GATGAATTAG GAAAAGCTGA TTTTGAGAGA 120 151 ATTATAAGTG GCCTTATTGA TGGTGGGTTT CGGCAAGATG CCCCAACGAAT ATGTGGGATC 180								
110 ATATAAAATA TAGAAAAGTT ATTTACAATT TTGTCCGTTA ACATGTCCAG ATATTACACT 112 CTCAAAAGAA AAAGTGTTAG AAAAATCATA TAAAATAGAG TTCAAATTCT TTGTTAGATT 114 TTTTTACTG AACATTTAAA ATATATATTG ATATTGATTA TCAATTTTA TAAAATAATT 114 TTTAAAATTAA CATTCAATAT ATATATTTTA AAAATTAACAT TCAAATATAA TATATTATT 116 TTAAAAATTAA CATTCAATAT ATATATTTTA AAAATTAACAT TCAATATAAT TATTTTAAAG 118 ACACAGAAGA AACAACAAAT TCCATAAAAT TGTGGAGATAA TATTTAACCC TAACTTTCTT 120 ATGAACTGAG AGATTTTACA TTTATGAGAA ATGATGTCC TGTGTTAATT ATCCATGTCA 122 GCTACCTAAT CACTAGAAAA GCTAATCAGA ATTCTGTGAT CTAGTCCTAC TATTCAAACA 124 CTTTTAGGCC AAAGAAAATT GAAACACAAA ATACCAGTTC TCAAATACAA TGAACATTAT 1740 126 TAATTATAAT TCAGTTAAAA GTCATTGATC AGAACAGCAG TGAAGGTTAG CTATAAGCGC 128 GTTATAGGTG CAGGCAGAGT GTCGTGCCTA TATATACCCT TTGGAATGCA CAAGTTGAAA 130 CACAAAAGAA AAATG 131 (1) SEQUENCE CHARACTERISTICS: 134 (1) SEQUENCE CHARACTERISTICS: 135 (A) LENGTH: 1965 base pairs 136 (B) TYPE: nucleic acid 137 (C) STRANDEDNESS: single 138 (D) TOPOLOGY: linear 140 (ii) MOLECULE TYPE: cDNA 141 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 2: 144 AAGCTTCAAG TAAGTCTCTG TGATATGTAT GCAAGGGTTC GAAATGAGAA GAAGGCCCTT 149 CAAATTCTAG GTGTACTGGA ATCTAGGAAG GATGAATTAG GAAAAGCTGA TTTTGAGAGA 150 151 ATTATAAGTG GCCTTATTGA TGGTGGGTTT CGGCAAGATG CCCAACGAAT ATGTGGGATC 180								
112 CTCAAAAGAA AAAGTGTTAG AAAAATCATA TAAAATAGAG TTCAAATTCT TTGTTAGATT 114 TTTTTACTG AACATTTAAA ATATATATT ATATATTAT TTCATTTTA TAAATATATT 116 TTAAAATTAA CATTCAATAT ATATATTTA AAATTAACAT TCCATATATA TATTTTAAAG 118 ACACAGAAGA AACAACAAAT TCCATAAAAT TGTGAGATAA TATTTAAACCC TAACTTTCTT 120 ATGAACTGAG AGATTTTACA TTTATGAGAA ATGATGTCC TGTGTTAATT ATCCATGTCA 122 GCTACCTAAT CACTAGAAAA GCTAATCAGA ATTCTGTGAT CTAGTCCTAC TATTCAACA 124 CTTTTAGGCC AAAGAAAATT GAAACACAAA ATACCAGTTC TCAAATACAA TGAACATTAT 1740 126 TAAATTATAAT TCAGTTAAAA GTCATTGATC AGAACAGCAG TGAAGGTTAG CTATAAGCGC 128 GTTATAGGTG CAGGCAGAGT GTCGTGCCTA TATATACCCT TTGGAATGCA CAAGTTGAAA 130 CACAAAAGAA AAATG 131 (1) SEQUENCE CHARACTERISTICS: 134 (1) SEQUENCE CHARACTERISTICS: 135 (A) LENGTH: 1965 base pairs 136 (B) TYPE: nucleic acid 137 (C) STRANDEDNESS: single 138 (D) TOPOLOGY: linear 140 (ii) MOLECULE TYPE: cDNA 145 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 2: 147 AAGCTTCAAG TAAGTCCTG TGATATGTAT GCAAGGGTC GAAATGAGAA GAAGGCCCTT 149 CAAATTCTAG GTGTACTGGA ATCTAGGAAG GATGAATTAG GAAAAGCTGA TTTTGAGAGA 150 151 ATTATAAGTG GCCTTATTGA TGGTGGGTTT CGGCAAGATG CCCCAACGAAT ATGTGGGATC 180								
114 TTTTTTACTG AACATTTAAA ATATATATTG ATATTGATTA TTCATTTTTA TAAATATATT 116 TTAAAATTAA CATTCAATAT ATATATTTA AAATTAACAT TCAATATATA TATTTTAAAG 118 ACACAGAAGA AACAACAAAT TCCATAAAAT TGTGAGATAA TATTTTAACCC TAACTTTCTT 120 ATGAACTGAG AGATTTTACA TTTATGAGAA ATGATTGTCC TGTGTTAATT ATCCATGTCA 122 GCTACCTAAT CACTAGAAAA GCTAATCAGA ATTCTGTGAT CTAGTCCTAC TATTCAAACA 124 CTTTTAGGCC AAAGAAAATT GAAACACAAA ATACCAGTTC TCAAATACAA TGAACATTAT 126 TAATTATAAT TCAGTTAAAA GTCATTGATC AGAACAGCAG TGAAGGTTAG CTATAAGCGC 128 GTTATAGGTG CAGGCAGAGT GTCGTGCCTA TATATACCCT TTGGAATGCA CAAGTTGAAA 130 CACAAAAGAA AAATG 131 CACAAAAGAA AAATG 132 (2) INFORMATION FOR SEQ ID NO: 2: 134 (i) SEQUENCE CHARACTERISTICS: 135 (A) LENGTH: 1965 base pairs 136 (B) TYPE: nucleic acid 137 (C) STRANDEDNESS: single 138 (D) TOPOLOGY: linear 140 (ii) MOLECULE TYPE: cDNA 145 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 2: 147 AAGCTTCAAG TAAGTCTCTG TGATATGTAT GCAAGGGTTC GAAATGAGAA GAAGGCCCTT 149 CAAATTCTAG GTGTACTGGA ATCTAGGAAG GATGAATTAG GAAAAGCTGA TTTTGAGAGA 150 151 ATTATAAGTG GCCTTATTGA TGGTGGGTTT CGGCAAGATG CCCCAACGAAT ATGTGGGATC 180								
116 TTAAAATTAA CATTCAATAT ATATATTTTA AAATTAACAT TCAATATATA TATTTTAAAG 118 ACACAGAAGA AACAACAAAT TCCATAAAAT TGTGAGATAA TATTTAACCC TAACTTTCTT 120 ATGAACTGAG AGATTTACA TTTATGAGAA ATGATTGTCC TGTGTTAATT ATCCATGTCA 122 GCTACCTAAT CACTAGAAAA GCTAATCAGA ATTCTGTGAT CTAGTCCTAC TATTCAAACA 124 CTTTTAGGCC AAAGAAAATT GAAACACAAA ATACCAGTTC TCAAATACAA TGAACATTAT 126 TAATTATAAT TCAGTTAAAA GTCATTGATC AGAACAGCAG TGAAGGTTAG CTATAAGCGC 128 GTTATAGGTG CAGGCAGAGT GTCGTGCCTA TATATACCCT TTGGAATGCA CAAGTTGAAA 130 CACAAAAGAA AAATG 131 (2) INFORMATION FOR SEQ ID NO: 2: 134 (i) SEQUENCE CHARACTERISTICS: 135 (A) LENGTH: 1965 base pairs 136 (B) TYPE: nucleic acid 137 (C) STRANDEDNESS: single 138 (D) TOPOLOGY: linear 140 (ii) MOLECULE TYPE: cDNA 145 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 2: 147 AAGCTTCAAG TAAGTCTCTG TGATATGTAT GCAAGGGTTC GAAATGAGAA GAAGGCCCTT 149 CAAATTCTAG GTGTACTGGA ATCTAGGAAG GATGAATTAG GAAAAGCTGA TTTTGAGAGA 150 151 ATTATAAGTG GCCTTATTGA TGGTGGGTTT CGGCAAGATG CCCAACGAAT ATGTGGGATC 180								
118 ACACAGAAGA AACAACAAAT TCCATAAAAT TGTGAGATAA TATTTAACCC TAACTTTCTT 120 ATGAACTGAG AGATTTTACA TTTATGAGAA ATGATTGTCC TGTGTTAATT ATCCATGTCA 1620 122 GCTACCTAAT CACTAGAAAA GCTAATCAGA ATTCTGTGAT CTAGTCCTAC TATTCAAACA 1680 124 CTTTTAGGCC AAAGAAAATT GAAACACAAA ATACCAGTTC TCAAATACAA TGAACATTAT 1740 126 TAATTATAAT TCAGTTAAAA GTCATTGATC AGAACAGCAG TGAAGGTTAG CTATAAGCGC 1800 128 GTTATAGGTG CAGGCAGAGT GTCGTGCCTA TATATACCCT TTGGAATGCA CAAGTTGAAA 1860 130 CACAAAAGAA AAATG 1875 132 (2) INFORMATION FOR SEQ ID NO: 2: 134 (i) SEQUENCE CHARACTERISTICS: 135 (A) LENGTH: 1965 base pairs 136 (B) TYPE: nucleic acid 137 (C) STRANDEDNESS: single 138 (D) TOPOLOGY: linear 140 (ii) MOLECULE TYPE: cDNA 145 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 2: 147 AAGCTTCAAG TAAGTCTCTG TGATATGTAT GCAAGGGTTC GAAATGAGAA GAAGGCCCTT 60 149 CAAATTCTAG GTGTACTGGA ATCTAGGAAG GATGAATTAG GAAAAGCTGA TTTTGAGAGA 120 151 ATTATAAGTG GCCTTATTGA TGGTGGGTTT CGGCAAGATG CCCAACGAAT ATGTGGGATC 180								
120 ATGAACTGAG AGATTTTACA TTTATGAGAA ATGATTGTCC TGTGTTAATT ATCCATGTCA 122 GCTACCTAAT CACTAGAAAA GCTAATCAGA ATTCTGTGAT CTAGTCCTAC TATTCAAACA 124 CTTTTAGGCC AAAGAAAATT GAAACACAAA ATACCAGTTC TCAAATACAA TGAACATTAT 126 TAATTATAAT TCAGTTAAAA GTCATTGATC AGAACAGCAG TGAAGGTTAG CTATAAGCGC 128 GTTATAGGTG CAGGCAGAGT GTCGTGCCTA TATATACCCT TTGGAATGCA CAAGTTGAAA 130 CACAAAAGAA AAATG 1875 132 (2) INFORMATION FOR SEQ ID NO: 2: 134 (i) SEQUENCE CHARACTERISTICS: 135 (A) LENGTH: 1965 base pairs 136 (B) TYPE: nucleic acid 137 (C) STRANDEDNESS: single 138 (D) TOPOLOGY: linear 140 (ii) MOLECULE TYPE: cDNA 145 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 2: 147 AAGCTTCAAG TAAGTCTCTG TGATATGTAT GCAAGGGTTC GAAATGAGAA GAAGGCCCTT 149 CAAATTCTAG GTGTACTGGA ATCTAGGAAG GATGAATTAG GAAAAGCTGA TTTTGAGAGA 120 151 ATTATAAAGTG GCCTTATTGA TGGTGGGTTT CGGCAAGATG CCCCAACGAAT ATGTGGGATC 180								
122 GCTACCTAAT CACTAGAAAA GCTAATCAGA ATTCTGTGAT CTAGTCCTAC TATTCAAACA 124 CTTTTAGGCC AAAGAAAATT GAAACACAAA ATACCAGTTC TCAAATACAA TGAACATTAT 126 TAATTATAAT TCAGTTAAAA GTCATTGATC AGAACAGCAG TGAAGGTTAG CTATAAGCGC 128 GTTATAGGTG CAGGCAGAGT GTCGTGCCTA TATATACCCT TTGGAATGCA CAAGTTGAAA 130 CACAAAAGAA AAATG 132 (2) INFORMATION FOR SEQ ID NO: 2: 134 (i) SEQUENCE CHARACTERISTICS: 135 (A) LENGTH: 1965 base pairs 136 (B) TYPE: nucleic acid 137 (C) STRANDEDNESS: single 138 (D) TOPOLOGY: linear 140 (ii) MOLECULE TYPE: cDNA 145 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 2: 147 AAGCTTCAAG TAAGTCTCTG TGATATGTAT GCAAGGGTTC GAAATGAGAA GAAGGCCCTT 149 CAAATTCTAG GTGTACTGGA ATCTAGGAAG GATGAATTAG GAAAAGCTGA TTTTGAGAGA 150 180								
124 CTTTTAGGCC AAAGAAAATT GAAACACAAA ATACCAGTTC TCAAATACAA TGAACATTAT 126 TAATTATAAT TCAGTTAAAA GTCATTGATC AGAACAGCAG TGAAGGTTAG CTATAAGCGC 128 GTTATAGGTG CAGGCAGAGT GTCGTGCCTA TATATACCCT TTGGAATGCA CAAGTTGAAA 130 CACAAAAGAA AAATG 1875 132 (2) INFORMATION FOR SEQ ID NO: 2: 134 (i) SEQUENCE CHARACTERISTICS: 135 (A) LENGTH: 1965 base pairs 136 (B) TYPE: nucleic acid 137 (C) STRANDEDNESS: single 138 (D) TOPOLOGY: linear 140 (ii) MOLECULE TYPE: cDNA 145 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 2: 147 AAGCTTCAAG TAAGTCTCTG TGATATGTAT GCAAGGGTTC GAAATGAGAA GAAGGCCCTT 149 CAAATTCTAG GTGTACTGGA ATCTAGGAAG GATGAATTAG GAAAAGCTGA TTTTGAGAGA 150 180								
126 TAATTATAAT TCAGTTAAAA GTCATTGATC AGAACAGCAG TGAAGGTTAG CTATAAGCGC 128 GTTATAGGTG CAGGCAGAGT GTCGTGCCTA TATATACCCT TTGGAATGCA CAAGTTGAAA 130 CACAAAAGAA AAATG 1875 132 (2) INFORMATION FOR SEQ ID NO: 2: 134 (i) SEQUENCE CHARACTERISTICS: 135 (A) LENGTH: 1965 base pairs 136 (B) TYPE: nucleic acid 137 (C) STRANDEDNESS: single 138 (D) TOPOLOGY: linear 140 (ii) MOLECULE TYPE: cDNA 145 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 2: 147 AAGCTTCAAG TAAGTCTCTG TGATATGTAT GCAAGGGTTC GAAATGAGAA GAAGGCCCTT 149 CAAATTCTAG GTGTACTGGA ATCTAGGAAG GATGAATTAG GAAAAGCTGA TTTTGAGAGA 150 1800								
128 GTTATAGGTG CAGGCAGAGT GTCGTGCCTA TATATACCCT TTGGAATGCA CAAGTTGAAA  130 CACAAAAGAA AAATG  121 (2) INFORMATION FOR SEQ ID NO: 2:  134 (i) SEQUENCE CHARACTERISTICS:  135 (A) LENGTH: 1965 base pairs  136 (B) TYPE: nucleic acid  137 (C) STRANDEDNESS: single  138 (D) TOPOLOGY: linear  140 (ii) MOLECULE TYPE: cDNA  145 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 2:  147 AAGCTTCAAG TAAGTCTCTG TGATATGTAT GCAAGGGTTC GAAATGAGAA GAAGGCCCTT  149 CAAATTCTAG GTGTACTGGA ATCTAGGAAG GATGAATTAG GAAAAGCTGA TTTTGAGAGA  120  151 ATTATAAGTG GCCTTATTGA TGGTGGGTTT CGGCAAGATG CCCAACGAAT ATGTGGGATC  180								
130 CACAAAAGAA AAATG  132 (2) INFORMATION FOR SEQ ID NO: 2:  134 (i) SEQUENCE CHARACTERISTICS:  135 (A) LENGTH: 1965 base pairs  136 (B) TYPE: nucleic acid  137 (C) STRANDEDNESS: single  138 (D) TOPOLOGY: linear  140 (ii) MOLECULE TYPE: cDNA  145 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 2:  147 AAGCTTCAAG TAAGTCTCTG TGATATGTAT GCAAGGGTTC GAAATGAGAA GAAGGCCCTT  149 CAAATTCTAG GTGTACTGGA ATCTAGGAAG GATGAATTAG GAAAAGCTGA TTTTGAGAGA  151 ATTATAAGTG GCCTTATTGA TGGTGGGTTT CGGCAAGATG CCCCAACGAAT ATGTGGGATC  180								
132 (2) INFORMATION FOR SEQ ID NO: 2: 134 (i) SEQUENCE CHARACTERISTICS: 135 (A) LENGTH: 1965 base pairs 136 (B) TYPE: nucleic acid 137 (C) STRANDEDNESS: single 138 (D) TOPOLOGY: linear 140 (ii) MOLECULE TYPE: cDNA 145 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 2: 147 AAGCTTCAAG TAAGTCTCTG TGATATGTAT GCAAGGGTTC GAAATGAGAA GAAGGCCCTT 149 CAAATTCTAG GTGTACTGGA ATCTAGGAAG GATGAATTAG GAAAAGCTGA TTTTGAGAGA 120 151 ATTATAAGTG GCCTTATTGA TGGTGGGTTT CGGCAAGATG CCCCAACGAAT ATGTGGGATC 180								
134 (i) SEQUENCE CHARACTERISTICS:  135 (A) LENGTH: 1965 base pairs  136 (B) TYPE: nucleic acid  137 (C) STRANDEDNESS: single  138 (D) TOPOLOGY: linear  140 (ii) MOLECULE TYPE: cDNA  145 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 2:  147 AAGCTTCAAG TAAGTCTCTG TGATATGTAT GCAAGGGTTC GAAATGAGAA GAAGGCCCTT  149 CAAATTCTAG GTGTACTGGA ATCTAGGAAG GATGAATTAG GAAAAGCTGA TTTTGAGAGA  120  151 ATTATAAGTG GCCTTATTGA TGGTGGGTTT CGGCAAGATG CCCAACGAAT ATGTGGGATC  180			. 10/3					
135 (A) LENGTH: 1965 base pairs 136 (B) TYPE: nucleic acid 137 (C) STRANDEDNESS: single 138 (D) TOPOLOGY: linear 140 (ii) MOLECULE TYPE: cDNA 145 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 2: 147 AAGCTTCAAG TAAGTCTCTG TGATATGTAT GCAAGGGTTC GAAATGAGAA GAAGGCCCTT 149 CAAATTCTAG GTGTACTGGA ATCTAGGAAG GATGAATTAG GAAAAGCTGA TTTTGAGAGA 120 151 ATTATAAGTG GCCTTATTGA TGGTGGGTTT CGGCAAGATG CCCCAACGAAT ATGTGGGATC 180		•••						
136 (B) TYPE: nucleic acid  137 (C) STRANDEDNESS: single  138 (D) TOPOLOGY: linear  140 (ii) MOLECULE TYPE: cDNA  145 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 2:  147 AAGCTTCAAG TAAGTCTCTG TGATATGTAT GCAAGGGTTC GAAATGAGAA GAAGGCCCTT  149 CAAATTCTAG GTGTACTGGA ATCTAGGAAG GATGAATTAG GAAAAGCTGA TTTTGAGAGA  120  151 ATTATAAGTG GCCTTATTGA TGGTGGGTTT CGGCAAGATG CCCAACGAAT ATGTGGGATC  180								
137 (C) STRANDEDNESS: single  138 (D) TOPOLOGY: linear  140 (ii) MOLECULE TYPE: cDNA  145 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 2:  147 AAGCTTCAAG TAAGTCTCTG TGATATGTAT GCAAGGGTTC GAAATGAGAA GAAGGCCCTT  149 CAAATTCTAG GTGTACTGGA ATCTAGGAAG GATGAATTAG GAAAAGCTGA TTTTGAGAGA  120  151 ATTATAAGTG GCCTTATTGA TGGTGGGTTT CGGCAAGATG CCCAACGAAT ATGTGGGATC  180								
138 (D) TOPOLOGY: linear  140 (ii) MOLECULE TYPE: cDNA  145 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 2:  147 AAGCTTCAAG TAAGTCTCTG TGATATGTAT GCAAGGGTTC GAAATGAGAA GAAGGCCCTT  149 CAAATTCTAG GTGTACTGGA ATCTAGGAAG GATGAATTAG GAAAAGCTGA TTTTGAGAGA  120  151 ATTATAAGTG GCCTTATTGA TGGTGGGTTT CGGCAAGATG CCCAACGAAT ATGTGGGATC  180								
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145 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 2: 147 AAGCTTCAAG TAAGTCTCTG TGATATGTAT GCAAGGGTTC GAAATGAGAA GAAGGCCCTT 149 CAAATTCTAG GTGTACTGGA ATCTAGGAAG GATGAATTAG GAAAAGCTGA TTTTGAGAGA 120 151 ATTATAAGTG GCCTTATTGA TGGTGGGTTT CGGCAAGATG CCCAACGAAT ATGTGGGATC 180		·						
147 AAGCTTCAAG TAAGTCTCTG TGATATGTAT GCAAGGGTTC GAAATGAGAA GAAGGCCCTT 60 149 CAAATTCTAG GTGTACTGGA ATCTAGGAAG GATGAATTAG GAAAAGCTGA TTTTGAGAGA 120 151 ATTATAAGTG GCCTTATTGA TGGTGGGTTT CGGCAAGATG CCCAACGAAT ATGTGGGATC 180								
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RAW SEQUENCE LISTING DATE: 05/09/2005 PATENT APPLICATION: US/09/368,572 TIME: 12:50:59

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159	CATGTAACAA	ATAAGAATGA	ATTTGTTTAT	GGATTTTTCC	ATTGCTCAGA	TTCTGAATTT	420
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167	TACTATACTG	ATCACAAGAT	ACAAACTAAT	ATAAATGGAT	AGGAAATGCA	GATGGGATGG	660
169	TTCAAGCTAG	TCTTTAATAT	TGAGATAGTA	CAGAAAATGC	AATGCCCAAA	GTAAACAACG	720
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173	TAGTCTAGAC	TGTGAATGCA	GTATTTATAC	ACTACAATGA	TCTAAATAAG	ATGCTACTAA	840
175	TGCAATCATG	CTTAATGTAA	TATGAATTGA	TCTAAAGTAG	CTTGCAAATT	TGCTTTGTTT	900
177	CCGACATACA	CTTCAATATG	ААААААААА	AAAACACTTT	GAGAACTTTT	TAAAAAGTAT	960
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213	(2) INFORM	ATION FOR SE	EQ ID NO: 3:	:			
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216		(A) LENGTH:	2960 base p	oairs			
217		(B) TYPE: nu	cleic acid	•			
218		(C) STRANDEI	ONESS: singl	le			
219		(D) TOPOLOGY	_				
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DATE: 05/09/2005

TIME: 12:50:59

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/368,572

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264	CTATAACCCC	CCCAACAATA	TATCATATTT	ACATAATGAT	TTATACTATC	AATAATATCA	1140
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341							
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RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/368,572

DATE: 05/09/2005 TIME: 12:50:59

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Output Set: N:\CRF4\05092005\I368572.raw

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			CCTTATATAT				1440
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			CAACCTTTTC				1620
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			ACCTCTCTAA				1800
			AAAAGTCATT				1860
			CCACGCCAAT				1920
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			GAAATTGTTT				2040
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419	TTGAGAATGG	AAATTATTAA	AATACCCTTA	ACCTTAAATT	TAGAATCTAT	GATATATAAG	2340
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425	AAGGTAAAGT	TAAGGTAAGA	CAGCGAAAGC	CATAAGTAAA	TGTAAATCTA	AAAGTAAAAC	2520
427	CAATTTAGTT	TTTAGACATT	ACGAGTATTC	AGGCATTCAT	AATTATGGTA	CAACTTTTTA	2580
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431	ATCACTTATT	TCGTACACAC	AAAAATTATT	TATATTTTTA	CATAAATCCT	ATCTAGTCAG	2700
433	TTTTCTCCAT	TAAAATATTA	TATAAAAATA	TATAAATATA	ATAATAAAAT	TTAAAATACA	2760
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VERIFICATION SUMMARY

DATE: 05/09/2005

PATENT APPLICATION: US/09/368,572

TIME: 12:51:00

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L:32 M:220 C: Keyword misspelled or invalid format, [(B) FILING DATE:]

L:33 M:220 C: Keyword misspelled or invalid format, [(C) CLASSIFICATION:]
L:33 M:220 C: Keyword misspelled or invalid format, Poss data loss, (C) CLASSIFICATION: L:38 M:238 W: Alpha Fields not Ordered, Reordered [(A) APPLICATION NUMBER:] of (1) (vii)